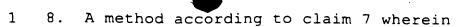


- 1 1. A supercapacitor structure comprising in contiguity a
- 2 positive electrode member, a negative electrode member, and a
- 3 separator member interposed therebetween
- 4 characterized in that
- 5 a) each of said electrode members comprises an activated
- 6 carbon fabric element to which is bonded an electrically-
- 7 conductive current collector element,
- b) said separator member comprises a micro-fibrillar ultra-
- 9 high molecular weight polyolefin membrane, and
- 10 c) each said member is bonded to one or more contiguous
- 11 members at its respective interface to form a unitary flexible
- 12 laminate structure.
- 1 2. A supercapacitor structure according to claim 1 wherein
- 2 said polyolefin membrane comprises polyethylene.
- 1 3. A supercapacitor structure according to claim 1 wherein at
- 2 least one of said collector elements comprises an open-mesh
- 3 grid.
- 1 4. A supercapacitor structure according to claim 3 wherein
- 2 said collector element grids are thermally bonded to associated
- 3 carbon fabric by an electrically-conductive thermoadhesive
- 4 composition.

- 1 5. A supercapacitor structure according to claim 4 wherein.
- 2 said carbon fabric electrode elements are thermally bonded to
- 3 the interposed separator member by virtue of the thermoadhesive
- 4 nature of said polyolefin membrane.
- 1 6. A method of making a supercapacitor structure which
- 2 comprises arranging contiguously a positive electrode member, a
- 3 negative electrode member, and a separator member interposed
- 4 therebetween
- 5 characterized in that
- a) each of said electrode members is formed of an activated carbon fabric element bonded to an electrically-conductive
- 8 current collector element,
- b) said separator member is formed of a micro-fibrillar
- 10 ultra-high molecular weight polyolefin membrane, and
- 1) c) each said member is bonded to one or more contiguous
- 12 members at its respect interface to form a unitary flexible
- 13 laminate structure.
- 1 7. A method according to claim 6 wherein
- 2 a) at least one surface of each said collector element is
- 3 coated with a layer of electrically-conductive thermoadhesive
- 4 composition,
- 5 b) each fabric electrode element is arranged in surface
- 6 contact with the coated surface of its associated collector
- 7 element to form a subassembly, and
- 8 c) said subassembly is laminated under heat and pressure to
- 9 form a unitary electrode member.



- a) the exposed fabric surface of each said electrode member
- 3 is arranged in contact with a respective surface of said
- 4 separator member, and
- b) said arrangement is laminated under heated and pressure
- 6 to soften at least said separator member surfaces and effect an
- 7 adhesive laminate bond between said members.